09/672,353

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Term: L5 and mutator

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DB=USPT,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L6	L5 and mutator	9	L6
L5	L4 and terminal inverted repeat$1	26	L5
L4	L3 and ((identif$6 or isolat$3) near5 sequence$1)	537	L4
L3	transposable near5 element$1	825	L3
L2	L1 and hybridiz$4	2	L2
L1	transposable element$1 near5 terminal inverted repeat$1	2	L1

END OF SEARCH HISTORY

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Search Results - Record(s) 1 through 9 of 9 returned.

☐ 1. 6599725 . 02 Feb 01; 29 Jul 03. Polypeptide compositions for controlling cell death and disease resistance in plants. Briggs; Steven P., et al. 435/189; 530/350 530/370 530/372 530/376 530/379. C12N009/02 C07K014/415.

☐ 2. 6479629 . 18 Jun 01; 12 Nov 02. Maize histone deacetylases and their use. Baldwin; Donald Adelphi, et al. 530/324; 424/94.1 536/23.2 800/279. A61K038/00.

☐ 3. 6420117 . 14 Sep 00; 16 Jul 02. Miniature inverted repeat transposable elements and methods of use. Wessler; Susan R., et al. 435/6; 435/183 435/412 435/91.1 536/23.1 536/23.5 536/24.31 536/24.33 800/278 800/295. C12Q001/68 C07H021/02 C07H021/04 A01H001/00 A01H009/100.

☐ 4. 6287843 . 31 Mar 99; 11 Sep 01. Maize histone deacetylases and their use. Baldwin; Donald Adelphi, et al. 435/252.3; 435/419 435/6 536/23.2 800/279. C12N001/20 C12N005/04 C12Q001/68 C07H021/04 A01H001/00.

☐ 5. 6211437 . 04 Mar 97; 03 Apr 01. Nucleic acids from maize encoding proteins which suppress plant cell death. Briggs; Steven P., et al. 800/298; 435/320.1 536/23.6 800/278. A01H005/00 A01H005/10 C12N015/82.

☐ 6. 5985570 . 17 Dec 97; 16 Nov 99. Identification of and cloning a mobile transposon from Aspergillus. Amutan; Maria, et al. 435/6; 435/320.1 435/473. C12Q001/68.

☐ 7. 5981833 . 04 Feb 97; 09 Nov 99. Nuclear restorer genes for hybrid seed production. Wise; Roger P., et al. 800/271; 435/235.1 435/412 536/23.6 536/24.1 536/24.33 800/275 800/298 800/303. A01H005/00 A01H001/00 C12M015/00 C12M015/82.

☑ 8. 5710367 . 22 Sep 95; 20 Jan 98. Apomictic maize. Kindiger; Bryan K., et al. 800/266; 47/DIG.1 536/24.3 800/269 800/275 800/320.1. A01H005/00 C12M015/00.

☐ 9. 5589611 . 17 Sep 93; 31 Dec 96. Disease resistance gene from maize and its use for disease resistance as a selectable marker and as a gene identification probe. Briggs; Steven P., et al. 800/268; 435/243 435/320.1 435/418 435/419 435/6 536/23.6 800/301. A01H001/04 C12N005/00 C12N015/00 C07H021/04.

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Term	Documents
MUTATOR	645
MUTATORS	60
(5 AND MUTATOR).USPT,JPAB,EPAB,DWPI.	9
(L5 AND MUTATOR).USPT,JPAB,EPAB,DWPI.	9

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L6: Entry 8 of 9 File: USPT Jan 20, 1998

DOCUMENT-IDENTIFIER: US 5710367 A
TITLE: Apomictic maize

Brief Summary Text (3):
This invention relates to plants that breed true by transferring the apomictic mechanism of reproduction from a wild plant species to a cultivated plant to form a true-breeding hybrid. More particularly, this invention relates to apomictic maize and to apomictic maize/Tripsacum hybrids. The invention also relates to genetic elements for controlling apomixis, to vectors containing the genetic elements for controlling apomixis, to a method for using those genetic elements for producing true breeding plant progeny, and to nucleic acid sequences useful for identifying the genetic elements associated with apomixis.

Detailed Description Text (44):
In addition, the 7 RAPD markers are associated with particular regions of DNA located on the Tr16 chromosome. The spatial distribution of the markers along the Tr16 chromosome can be employed in locating the A and N genes controlling apomictic reproduction. The order, position and spatial relationship between the markers and genes can thereby be mapped by conventional methods in the art. Once the positions of the genes are identified, standard gene isolation techniques can be used. For instance, the chromosomes can be isolated via methods such as pulse gel electrophoresis or standard agarose electrophoresis utilizing the markers as base or foundation points for extraction. Once the desired region is isolated, it can be sequenced by standard methods known in the art.

Detailed Description Text (46):
Another approach for locating and isolating the A and N genes is through the use of transposable element systems. Generically called "jumping genes", these automonous elements jump from chromosome to chromosome altering the genetic structure of the genome and creating mutations. One transposable element termed mutator "Mu" is particularly active and has been used successfully to locate the position of genes as well as providing a marker for their isolation (Chomet, 1994; Walbot et al., 1986). When Mu enters a particular site or gene on a chromosome it modifies the sequence of that gene, thereby altering its expression. As one example in maize, insertion of Mu element into the Wx (non-waxy) locus alters the gene so as to produce a wx (waxy) phenotype which expresses itself by modifying the structure of the starch granules in the seed. When this occurs, Mu leaves a particular genetic fingerprint at that locus; thereby enabling isolation of the corresponding region and gene by established methods (Chandler et al., 1994; Martienssen et al., 1989; and O'Reilly et al., 1985).

Detailed Description Text (47):
We have successfully transmitted the Mu element into a 30Mz+9Tr chromosome line by simple backcrossing and generation of 40Mz+9Tr B.sub.III hybrid individual via a 2n+n mating. Increasing these materials will result in a large number of 49 chromosome plants each carrying the Mu element, with the expectation that the Mu element will eventually insert itself into one of the genes controlling apomixis thereby imparting chimeral patterns in the corresponding individuals. To date, high levels of male sterility have been observed to accompany apomictic development in the maize-Tripsacum hybrids. Looking for highly male fertile sectors in individual plants will identify that an insertion of the Mu element has occurred at either the A or N loci. In addition, any seed produced on that chimeral sector will be sexually derived. Seed derived on the sector not affected by a Mu insertion will be apomictically derived. Once such events occur, the gene can be isolated and cloned via the 220 bp terminal inverted repeat "flag" used by geneticists to identify a Mu insertion. When a mutant for the apomixis gene of interest is found, the first step in locating the gene would be to probe a Southern blot containing DNA from the mutated stock with a publicly

available Mu1 probe. Outcrossing and segregation of the mutated locus and its association with the Mu1 probe unquestionably identifies the linkage of the probe, the Mu insertion, to the gene of interest.

Detailed Description Text (48):
Other transposable element systems that could be used for locating and isolating the A and N genes include the Ac/Ds system (Shure et al., 1983; Federoff et al., 1983; and Dellaporta et al., 1994) and the Spm system (Cone, 1994).

Detailed Description Text (115):
Chomet, P. S. (1994). "Transposon Tagging with Mutator", pp. 243-249, In: M. Freeling & V. Walbot (eds.), The Maize Handbook. Springer-Verlag, New York, Inc.

Detailed Description Text (153):
Martiennsen, R. A., Barken, A., Freeling, M. and Taylor, W. C. (1989). Molecular cloning of a maize gene involved in photosynthetic membrane organization that is regulated by Robertson's Mutator. EMBO J. 8:1633-1639.

Detailed Description Text (157):
O'Reilly, C., Shepherd, N. S., Pereira, A., Schwarz-Sommer, Z., Betram, I., Robertson, D. S. and Peterson, P. A. (1985). Molecular cloning of the al locus of Zea mays using the transposable elements En and Mul. EMBO J. 4:877-882.

Detailed Description Text (174):
Walbot et al., (1986). "Properties of Mutable Alleles Recovered from Mutator Stocks of Zea mays L. pp. 115-142, In: Gustafson et al. (eds), Genetics, Development and Evolution, Plenum Press, New York.